

SHEET 2 OF 6

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO. 2997-1-2-1-1-DIV	SERIAL NO. 08/918,325
	APPLICANT BARCLAY	
	FILING DATE August 26, 1997	GROUP ART 1761

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
							YES	NO
<i>AW</i>	AQ	WO 89/00606 ✓	1/28/89	<del>PCT</del> WO	1	1		
<i>AW</i>	AR	WO 88/10112 ✓	12/29/88	<del>PCT</del> WO	1	1		
<i>AW</i>	AS	60-105471	10/6/85	JAPAN	1	1		
<i>AW</i>	AT	58-213613	6/10/85	JAPAN	1	1		
<i>AW</i>	AU	58-196068	5/17/85	JAPAN	1	1		
<i>AW</i>	AV	WO 92/12711 ✓	08/06/92	<del>PCT</del> WO	1	1		
<i>AW</i>	AW	WO 91/14427 ✓	10/03/91	<del>PCT</del> WO	1	1		
<i>AW</i>	AX	0 231 904 A2 ✓	08/12/87	EPO	1	1		

## OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

<i>AW</i>	AY	Ainsworth, "Introduction and Keys to Higher Taxa.", pp. 1-7, 1973, in <i>The Fungi. An Advanced Treatise</i> , Vol. 4B, (G.C. Ainsworth et al. eds., Academic Press)
<i>AW</i>	AZ	Bahnweg et al., "A New Approach to Taxonomy of the Thraustochytriales and Labyrinthulales", pp. 131-140, 1986, in <i>The Biology of Marine Fungi</i> , (S.T. Moss ed., Cambridge University Press)
<i>AW</i>	BA	Bartnicki-Garcia, "The Cell Wall: A Crucial Structure in Fungal Evolution", pp. 389-403, 1988, in <i>Evolutionary Biology of the Fungi</i> , (A.D.M. Rayner et al. eds., Cambridge University Press)
<i>AW</i>	BB	Behrens et al., "Eicosapentaenoic Acid from Microalgae", p. 623, col. 2, abstract no. 193025d, 1989, Chemical Abstracts, Vol. 111, No. 21, Nov. 20.
<i>AW</i>	BC	Cavalier-Smith, "The Origin of Nuclei and of Eukaryotic Cells", pp. 463-468, 1975, <i>Nature</i> , Vol. 256
<i>AW</i>	BD	Cerda-Olmeda et al., "A Biography of <i>Phycomyces</i> ", pp. 7-26, 1987, in <i>Phycomyces</i> , (Cerda-Olmeda et al. eds., CSH Laboratory)
<i>AW</i>	BE	Couch et al., 1973, <i>Lipids</i> , 8(7):385-392
<i>AW</i>	BF	Cruickshank, 1934, "Studies in Fat Metabolism in the Fowl" in <i>Biochem. J.</i> , 28:965-977

EXAMINER <i>Anthony Weier</i>	DATE CONSIDERED <i>12/9/98</i> <i>updated 8/2/99</i>
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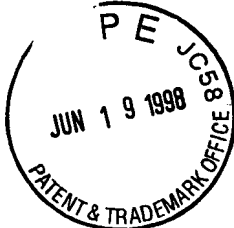


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AW	BG	Dick, "Saprolegniales", pp. 113-144, 1973, in <i>The Fungl. An Advanced Treatise</i> , (G.C. Ainsworth et al. eds., Academic Press))
AW	BH	Ellenbogen, "Polyunsaturated Fatty Acids of Aquatic Fungi: Possible Phylogenetic Significance", pp. 805-811, 1969, <i>Comp. Biochem. Physiol.</i> , Vol. 29
AW	BI	Emerson, "Current Trends of Experimental Research in the Aquatic Phycomycetes", pp. 169-200, 1950, <i>Ann. Rev. Micro.</i> , Vol. 4
AW	BJ	Erwin, "Comparative Biochemistry of Fatty Acids in Eukaryotic Microorganisms", pp. 41-143, 1973, in <i>Lipids and Biomembranes of Eukaryotic Microorganisms</i> , (J. Erwin ed., Academic Press)
AW	BK	Findlay et al., "Biochemical Indicators of the Role of Fungi and Thraustochytrids in Mangrove Detrital Systems", pp. 91-103, 1986, in <i>The Biology of Marine Fungi</i> , (S.T. Moss ed., Cambridge University Press)
AW	BL	Fisher et al., 1957, <i>J. Nutr.</i> , 63:119-129
AW	BM	Fuller, et al., "Isolation and Pure Culture Study of Marine Phycomycetes", pp. 745-756, 1964, <i>Mycologia</i> , Vol. 56
AW	BN	Gellerman et al., "Methyl-Directed Desaturation of Arachidonic to Eicosapentaenoic Acid in the Fungus, <i>Saprolegnia Parasitica</i> ", pp. 23-30, 1979, <i>Biochim. Biophys. Acta</i> , Vol. 573
AW	BO	Goldstein, "Development and Nutrition of New Species of Thraustochytrium", pp. 271-279, 1963, <i>Am. J. Bot.</i> , Vol. 50
AW	BP	Goldstein et al., "Biology of a Problematic Marine Fungus, <i>Dermocystidium</i> sp. II. Nutrition and Respiration", pp. 468-472, 1969, <i>Mycologia</i> , Vol. 61
AW	BQ	Goldstein et al., "Biology of a Problematic Marine Fungus, <i>Dermocystidium</i> sp. I. Development and Cytology", pp. 1-11, 1966, <i>Archiv for Mikrobiologie</i> , Vol. 53.1
AW	BR	Henderson et al., "Lipid Composition and Biosynthesis in the Marine Dinoflagellate <i>Cryptocodinium Cohnii</i> ", pp. 1679-1683, 1988, <i>Phytochemistry</i> , Vol 27. No. 6
AW	BS	Hori et al., "The Nucleotide Sequence of 5S rRNA from a Cellular Slime Mold <i>Dictyostellium Discoideum</i> ", pp. 5535-5539, 1980, <i>Nucl. Acids Res.</i> , Vol. 8
AW	BT	Hunter, "Fish Oil and Other Omega-3 Sources", pp. 1592-1596, 1987, <i>J. Am. Oil Chem. Soc.</i> , Vol. 64
AW	BU	Jong et al., "American Type Culture Collection Catalogue of Fungi/Yeast", pp. 350 and 378, <i>American Type Culture Collection</i> , 17th Edition, 1987.
AW	BV	Kates, "Techniques of Lipidology: Isolation, Analysis and Identification of Lipids", pp. 186-278, 1986, <i>Laboratory Techniques in Biochemistry and Molecular Biology</i> , Vol. 3
AW	BW	Kyle, "Microalgae as a Source of EPA-Containing Oils", p. 1251, 1987, <i>J. Am. Oil Chem. Soc.</i> , Vol. 64
AW	BX	Lepage et al., "Improved Recovery of Fatty Acid Through Direct Transesterification Without Prior Extraction or Purification", pp. 1391-1396, 1984, <i>J. Lipid Res.</i> , Vol. 25

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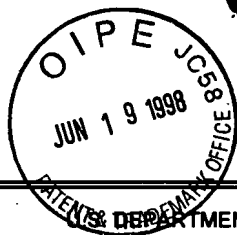


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<i>AW</i>	BY	Lipstein et al., "The Nutritional and Economic Value of Algae for Poultry" in <i>Algae Biomass</i> , G. Shelef and C.J. Soeder, eds., Elsevier/North-Holland Biomedical Press, 1980, pp. 667-685
<i>AW</i>	BZ	Lipstein et al., 1980, <i>Br. Poultry Sci.</i> , 21:9-21
<i>AW</i>	CA	Mannella et al., "Interrelatedness of 5S RNA Sequences Investigated by Correspondence Analysis", pp. 228-235, 1987, <i>J. Mol. Evol.</i> , Vol. 24
<i>AW</i>	CB	Miller, "Isolation and Pure Culture of Aquatic Phycomycetes by Membrane Filtration", pp. 524-527, 1967, <i>Mycologia</i> , Vol. 59
<i>AW</i>	CC	Moss, "Biology and Phylogeny of the Labrinthulales and Thraustochytriales", pp. 105-129, 1986, in <i>The Biology of Marine Fungi</i> , (S.T. Moss ed., Cambridge University Press)
<i>AW</i>	CD	Murty et al., 1961, <i>J. Nutrition</i> , 75:287-294
<i>AW</i>	CE	Navarro et al., 1972, <i>J. Sci. Fd. Agric.</i> , 23:1287-1292
<i>AW</i>	CF	Perkins, "Phylogenetic Considerations of the Problematic Thraustochytriaceae-Labrinthulid-Dermocystidium Complex Based on Observations of Fine Structure", pp. 45-63, 1974, <i>Veroff. Inst. Meeresforsch. Bremerh. Suppl.</i> , Vol. 5
<i>AW</i>	CG	Pigot, "The Need to Improve Omega-3 Content of Cultured Fish", pp. 63-68, 1989, <i>World Aquaculture</i> , Vol. 20
<i>AW</i>	CH	Pohl et al., "Fatty Acids and Lipids of Marine Algae and the Control of Their Biosynthesis by Environmental Factors", pp. 473-523, 1979, <i>Marine Algae in Pharmaceutical Science</i> , (Hoppe et al. eds.)
<i>AW</i>	CI	Reiser, 1951, <i>J. Nutrition</i> , 44:159-175
<i>AW</i>	CJ	Ryther, "Cultivation of Macroscopic Marine Algae", pp. 79-88, 1983, <i>Solar Energy Research Institute Aquatic Species Program Review. Proc of the March 1983 Principal Investigators Meeting</i> , SERI/CP-231 1946
<i>AW</i>	CK	Schlenk, "Urea Inclusion Compounds of Fatty Acids", pp. 243-267, 1954, <i>Prog. Chem. Fats and Other Lipids</i> , Vol. 2
<i>AW</i>	CL	Schneider, "Cultivation of Micro-organisms. Section 3.2: Fungi", pp. 337-345, 1976, in <i>Marine Ecology</i> , Vol. 3, Part 1. <i>Cultivation</i> , (O. Kinne ed., Wiley and Sons)
<i>AW</i>	CM	Simopoulos et al. (eds.), <i>Health Effects of Polyunsaturated Fatty Acids in Seafoods</i> , Chaps. 2-5, 7, 17, 1986, Academic Press)
<i>AW</i>	CN	Sorokin, "Dry Weight, Packed Cell Volume and Optical Density", pp. 321-343, 1973 in <i>Handbook of Phycological Methods: Culture Methods and Growth Measurements</i> , (J.R. Stein ed., Cambridge University Press)
<i>AW</i>	CO	Sparrow, <i>Aquatic Phycomycetes</i> , pp. 36-39, 1960, University of Michigan Press
<i>AW</i>	CP	Wassef, "Fungal Lipids", pp. 159-232, 1977, <i>Adv. Lipid Res.</i> , Vol. 15
<i>AW</i>	CQ	Weete, "Fatty Acids", pp. 49-95, 1980, in <i>Lipid Biochemistry of Fungi and Other Organisms</i> , (Plenum Press)

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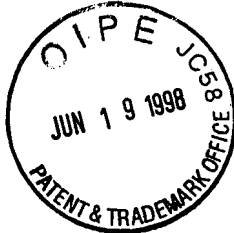


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CR	Yamada et al., "Production of Arachidonic Acid and Eicosapentaenoic Acid by Microorganisms", p. 1254, 1987, <i>J. Am. Oil Chem. Soc.</i> , Vol. 64
CS	Akimoto et al., "Metal Salts Requisite for the Production of Eicosapentaenoic Acid by a Marine Bacterium Isolated from Mackerel Intestines", pp. 504-508, 1991, <i>JAOCS</i> , Vol. 68, July.
CT	Ando et al., "Incorporation of n-3 Polyunsaturated Fatty Acids into Phospholipids of a Marine Bacterium <i>Vibrio</i> sp. Cultivated with Sardine Oil", pp. 169-171, 1992, <i>J. Fern. Bioeng.</i> , Vol. 73.
CU	Bajpai et al., "Production of Docosahexaenoic Acid by <i>Thraustochytrium aureum</i> ", pp. 706-710, 1991, <i>Appl. Microbiol. Biotechnol.</i> , Vol. 35.
CV	Bajpai et al., "Effects of Aging <i>Mortierella</i> Mycelium on Production of Arachidonic and Eicosapentaenoic Acids", pp. 775-780, 1991, <i>JAOCS</i> , Vol. 68, October.
CW	Bajpai et al., "Optimization of Production of Docosahexaenoic Acid (DHA) by <i>Thraustochytrium aureum</i> ATCC 34304", pp. 509-514, 1991, <i>JAOCS</i> , Vol. 68, July.
CX	Bajpai et al., "Eicosapentaenoic Acid (EPA) Formation; Comparative Studies with <i>Mortierella</i> Strains and Production by <i>Mortierella elongata</i> ", pp. 1294-1298, 1991, <i>Mycol. Res.</i> , Vol. 95.
CY	Boswell et al., "SCO Production by Fermentative Microalgae", pp. 274-286, 1992, in <i>Industrial Applications of Single Cell Oils</i> (Kyle et al., eds.), American Oil Chemists' Society, Champaign, IL.
CZ	Cohen et al., "Overproduction of $\gamma$ -Linolenic and Eicosapentaenoic Acids by Algae", pp. 569-572, 1992, <i>Plant Physiol.</i> , Vol. 98.
DA	Gandhi et al., "Production of the Polyunsaturated Fatty Acids Arachidonic Acid and Eicosapentaenoic Acid by the Fungus <i>Pythium ultimum</i> ", pp. 1825-1830, 1991, <i>J. Gen. Microbiol.</i> , Vol. 137.
DB	Hansen et al., "Effects of Culture Conditions on Accumulation of Arachidonic and Eicosapentaenoic Acids in Cultured Cells of <i>Rhizoglyphus squarrosus</i> and <i>Eurhynchium striatum</i> ", pp. 1837-1841, 1991, <i>Phytochemistry</i> , Vol. 30.
DC	Kendrick et al., "Microbial Polyunsaturated Fatty Acids of Potential Commercial Interest", pp. 59-65, 1992, <i>SIM Industrial Microbiology NEWS</i> , Vol. 42.
DD	Kendrick et al., "Lipids of Selected Molds Grown for Production of n-3 and n-6 Polyunsaturated Fatty Acids", pp. 15-20, 1992, <i>LIPIDS</i> , Vol. 27.
DE	Kyle et al., "Bioproduction of Docosahexaenoic Acid (DHA) by Microalgae", pp. 287-300, 1992, in <i>Industrial Applications of Single Cell Oils</i> (Kyle et al., eds.), American Oil Chemists' Society, Champaign, IL.
DF	Kyle et al., "Microalgae as a Source of EPA-Containing Oils", pp. 117-121, 1988, <i>Proc. World Conf. Biotechnol. Fats Oils Ind.</i>
DG	Radwan, "Sources of C <sub>20</sub> -Polyunsaturated Fatty Acids for Biotechnical Use", pp. 421-430, 1991, <i>Appl. Microbiol. Biotechnol.</i> , Vol. 35.

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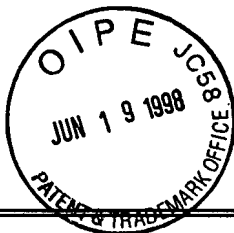
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## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROP.
<i>AW</i>	AA	5,415,879	5/16/95	Oh	1	1	
	AB	5,234,699	8/10/93	Yeo	1	1	
	AC	5,012,761	5/7/91	Oh	1	1	
	AD	4,792,418	12/20/88	Rubin et al.	1	1	
	AE	4,758,438	7/1988	Stroz et al.	1	1	
	AF	4,304,794	12/1981	Dwivedi et al.	1	1	
	AG	3,924,017	12/1975	Lee et al.	1	1	
	AH	3,908,028	9/1975	Neely et al.	1	1	
	AI	3,908,026	9/1975	Neely et al.	1	1	
	AJ	3,667,969	6/1972	Kracauer	1	1	
	AK	3,647,482	3/1972	Yueh	1	1	
<i>AW</i>	AL	3,296,079	1/1967	Griffin	1	1	
<i>AW</i>	AM	5,130,242	07/14/92	Barclay	1	1	
<i>AW</i>	AN	4,670,285	06/02/87	Clandinin et al.	1	1	
<i>AW</i>	AO	5,340,742	08/23/94	Barclay	1	1	
<i>AW</i>	AP	5,340,594	08/23/94	Barclay	1	1	

## FOREIGN PATENT DOCUMENTS

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<i>AW</i>	DH	Yazawa et al., "Production of Eicosapentaenoic Acid from Marine Bacteria", pp. 29-51, 1992, in <i>Industrial Applications of Single Cell Oils</i> (Kyle et al., eds.), American Oil Chemists' Society, Champaign, IL.
<i>AW</i>	DI	Yongmanitchai et al., "Screening of Algae for Potential Alternative Sources of Eicosapentaenoic Acid", pp. 2963-2967, 1991, <i>Phytochemistry</i> , Vol. 30.
<i>AW</i>	DJ	Yamada et al., "Production of Dihomo- $\gamma$ -Linolenic Acid, Arachidonic Acid and Eicosapentaenoic Acid by Filamentous Fungi", pp. 118-138, 1992, in <i>Industrial Applications of Single Cell Oils</i> (Kyle et al., eds.), American Oil Chemists' Society, Champaign, IL.
<i>AW</i>	DK	Yongmanitchai et al., "Omega-3 Fatty Acids: Alternative Sources of Production", pp 117-125, 1989, <i>Proc. Biochem.</i>

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